

# safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



## Cinnamaldehyde ≥98 %, for synthesis

article number: **5549**  
Version: **GHS 1.0 en**

date of compilation: 2016-03-09

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Identification of the substance	<b>Cinnamaldehyde</b>
Article number	5549
Registration number (REACH)	This information is not available.
EC number	203-213-9
CAS number	104-55-2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** laboratory chemical

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** sicherheit@carlroth.de

**Website:** www.carlroth.de

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

**e-mail (competent person)** : sicherheit@carlroth.de

### 1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.1D	acute toxicity (dermal)	(Acute Tox. 4)	H312
3.2	skin corrosion/irritation	(Skin Irrit. 2)	H315
3.4S	skin sensitisation	(Skin Sens. 1A)	H317

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### Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008 (CLP)

#### Signal word

#### Warning

#### Pictograms



#### Hazard statements

H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.

#### Precautionary statements

##### **Precautionary statements - prevention**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

##### **Precautionary statements - response**

P302+P352 IF ON SKIN: Wash with plenty of water.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P321 Specific treatment (see on this label).

##### **Precautionary statements - disposal**

P501 Dispose of contents/container to industrial combustion plant.

#### **Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Warning**

Symbol(s)



H317 May cause an allergic skin reaction.

## 2.3 Other hazards

There is no additional information.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Cinnamaldehyde
EC number	203-213-9
CAS number	104-55-2
Molecular formula	C <sub>9</sub> H <sub>8</sub> O
Molar mass	132.2 g/mol

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

### 4.2 Most important symptoms and effects, both acute and delayed

Diarrhoea, Irritation, Allergic reactions

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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### 5.2 Special hazards arising from the substance or mixture

Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

#### Hazardous combustion products

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

### 6.3 Methods and material for containment and cleaning up

#### Advices on how to contain a spill

Covering of drains.

#### Advices on how to clean up a spill

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8.

Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

- Ventilation requirements

Use local and general ventilation.

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### • Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C.

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

No data available.

#### Relevant DNELs/DMELs/PNECs and other threshold levels

##### • human health values

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	2.204 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	2.513 mg/kg	human, dermal	worker (industry)	chronic - systemic effects

##### • environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	1.004 mg/l	freshwater	short-term (single instance)
PNEC	0.1 mg/l	marine water	short-term (single instance)
PNEC	1.004 mg/l	water	continuous
PNEC	13.12 mg/l	sewage treatment plant (STP)	short-term (single instance)
PNEC	159.2 mg/kg	freshwater sediment	short-term (single instance)
PNEC	159.2 mg/kg	marine sediment	short-term (single instance)
PNEC	56.09 mg/kg	soil	short-term (single instance)

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)



#### Eye/face protection

Use safety goggles with side protection.

#### Skin protection

##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

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### • type of material

Butyl caoutchouc (butyl rubber)

### • material thickness

0,7mm.

### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection

Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C, colour code: Brown).

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state liquid (fluid)

Colour this information is not available

Odour characteristic

Odour threshold No data available

#### Other physical and chemical parameters

pH (value) This information is not available.

Melting point/freezing point -7.5 °C

Initial boiling point and boiling range 252.4 °C at 960 hPa

Flash point 125 °C at 966 hPa

Evaporation rate no data available

Flammability (solid, gas) not relevant (fluid)

#### Explosive limits

• lower explosion limit (LEL) this information is not available

• upper explosion limit (UEL) this information is not available

Explosion limits of dust clouds not relevant

Vapour pressure 0.1 hPa at 20 °C

Density 1.05 g/cm³ at 20 °C

Vapour density 4.6 air = 1

Bulk density Not applicable

Relative density Information on this property is not available.

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### Solubility(ies)

Water solubility 10 g/l at 27 °C

### Partition coefficient

n-octanol/water (log KOW) 1.83 (pH value: 3.76, 27.5 °C) (ECHA)

Soil organic carbon/water (log KOC) 1.567 (ECHA)

Auto-ignition temperature Information on this property is not available.

Decomposition temperature no data available

### Viscosity

• dynamic viscosity 12.83 mPa s at 27 °C

Explosive properties none

Oxidising properties none

## 9.2 Other information

Refractive index 1.622

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

In case of warming: Vapours can form explosive mixtures with air.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Oxidisers, Acids, Bases

### 10.4 Conditions to avoid

Keep away from heat.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Exposure route	Endpoint	Value	Species	Source
oral	LD50	2,220 mg/kg	rat	ECHA
dermal	LD50	1,260 mg/kg	rabbit	ECHA

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### **Skin corrosion/irritation**

Causes skin irritation.

### **Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

### **Respiratory or skin sensitisation**

May cause an allergic skin reaction. May cause sensitisation by skin contact.

### **Summary of evaluation of the CMR properties**

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

- Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

- Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

### **Symptoms related to the physical, chemical and toxicological characteristics**

- If swallowed**

data are not available

- If in eyes**

data are not available

- If inhaled**

irritability, cough

- If on skin**

causes skin irritation

### **Other information**

None

## SECTION 12: Ecological information

### 12.1 **Toxicity**

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### **Aquatic toxicity (acute)**

Endpoint	Value	Species	Source	Exposure time
LC50	105.8 mg/l	fish	ECHA	96 hours
EC50	119.6 mg/l	aquatic invertebrates	ECHA	48 hours

### 12.2 **Process of degradability**

The substance is readily biodegradable.

Theoretical Oxygen Demand: 2.542 mg/mg

Theoretical Carbon Dioxide: 2.997 mg/mg

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Process	Degradation rate	Time
biotic/abiotic	100 %	28 d

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) 1.83 (pH value: 3.76, 27.5 °C)

BCF 8.33 (ECHA)

### 12.4 Mobility in soil

Henry's law constant 0.162 Pa m<sup>3</sup>/mol at 25 °C

The Organic Carbon normalised adsorption coefficient 1.567

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Slightly hazardous to water.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1 UN number (not subject to transport regulations)

14.2 UN proper shipping name not relevant

14.3 Transport hazard class(es) not relevant

Class -

14.4 Packing group not relevant

14.5 Environmental hazards none (non-environmentally hazardous acc. to the dangerous goods regulations)

### 14.6 Special precautions for user

There is no additional information.

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### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

Not subject to ADR, RID and ADN.

- **International Maritime Dangerous Goods Code (IMDG)**

Not subject to IMDG.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Relevant provisions of the European Union (EU)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

Not listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**

Not listed.

- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

Not listed.

- **Restrictions according to REACH, Annex XVII**

not listed

- **List of substances subject to authorisation (REACH, Annex XIV)**

not listed

- **Directive on industrial emissions (VOCs, 2010/75/EU)**

VOC content 100 %

**Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II**

not listed

**Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

not listed

**Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)**

not listed

#### National inventories

Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)
- REACH (Europe)

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

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### SECTION 16: Other information

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	BioConcentration Factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

#### Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

#### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H312	harmful in contact with skin
H315	causes skin irritation
H317	may cause an allergic skin reaction

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### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.